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EXAMINER

JOO, JOSHUA

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/034,368	Applicant(s) GOURLAY ET AL.	
	Examiner JOSHUA JOO	Art Unit 2454	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-27 and 29-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11-27 and 29-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This Office action is in response to the communication filed on 08/25/2008.
Claims 1-2, 4-9, 11-27, 29-42 are pending for examination.

Response to Arguments

2. Applicant's arguments filed 08/25/2008 have been fully considered but they are not persuasive.
Applicant argued that:

3. (1) Brendel fails to disclose or suggest sending a plurality of response packets such that each of the plurality of response packets identifies or is sent via a different one of a plurality of ISPs.

4. In response, Examiner respectfully disagrees that the Brendel fails to disclose the feature.
Brendel teaches of sending packets that specify different paths (col. 10, lines 60-67). Brendel teaches that the routing table used for determining paths includes routes to different ISPs, e.g. American Online, Microsoft Network, Mindspring, etc... Therefore, Brendel teaches of sending packets identifying different one of a plurality of ISPs.

5. (2) Brendel says nothing about maintaining a mapping of each different type of service to an IP address, wherein the type of service directly corresponds to an Internet Service Provider.

6. In response, Brendel teaches of sending packets that specify different ISPs, and thus, Brendel teaches of packets identifying a type of service directly corresponding to an Internet Service Provider.
Brendel also teaches of maintaining IP addresses corresponding to different ISPs but does not specifically teach of maintaining a mapping of each different type of service to an IP address. Ishizaki teaches of maintaining records comprising of a service name indicating a type of service that maps to an address (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. A type of service to address.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the

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teachings for the different type of service to be mapped to an IP address as taught by Ishizaki such that the type of service, i.e. the service name, is mapped to the IP addresses of ISPs, which would allow the server to maintain service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-2, 4-9, 11-27, 29-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

9. Regarding claims 1, 5-9, 13, 16-17, 20-21, 23-27, 30-31, 34-37, 39-42, the feature of a type of service that corresponds to an "Internet Service Provider" is not described in Applicant's specification. Applicant's specification provides multiple descriptions for a type of service corresponding of a "service provider" and describes of "service providers of the Internet" (page 4, lines 5-6). However, the phrase "service provider" may be interpreted as an entity that provides service, and the phrase "service providers of the Internet" may be interpreted as service providers belonging or from the Internet. The specification does not define or describe "service provider" as a provider that provides access to the Internet, and thus, specification does not appear to have basis for "Internet Service Provider".

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-2, 4, 6-8, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, US Patent #6,587,438 (Brendel hereinafter), in view of Ishizaki et al, US Patent #6,810,421 (Ishizaki hereinafter).

12. As per claim 1, Brendel teaches substantially the invention as claimed including a network device adapted for processing a service request, comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are essential.), at least one of the processor or the memory being adapted for:

receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send a corresponding one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets is sent via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.); and

maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be

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received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.).

13. Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address.

14. Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Type of service mapped to an address.).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service, i.e. service name, is mapped to the different IP addresses of ISPs, which would allow the server to maintain and manage service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

16. As per claims 6-8, Brendel teaches substantially the invention as claimed including a computer readable medium, a method, and a network device adapted for processing a service request, comprising:
receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);
sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to the send a corresponding one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets identifies a

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different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.); and

maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.).

17. Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address.

18. Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Map type of service to address.).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service, i.e. service name, is mapped to the different IP addresses of ISPs, which would allow the server to maintain service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

20. As per claim 2, Brendel teaches the network device as recited in claim 1, wherein the service request is a TCP connection request or a DNS request (col. 5, lines 51-56; col. 7, lines 14-17. Request for TCP connection.).

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21. As per claim 4, Brendel teaches the network device as recited in claim 1, wherein the type of service indicates a specific network connection or domain (col. 5, lines 55-56; col. 10, lines 61-64. Path identified IP address. col. 11, lines 4-8. Path to ISP.).

22. As per claim 42, Brendel teaches the network device as recited in claim 1, wherein the type of service identifies the Internet Service Provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP addresses corresponds to ISPs.).

23. Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Ishizaki, in view of Coughlin, US Patent #6,810,411 (Coughlin hereinafter).

24. As per claim 5, Brendel and Ishizaki taught of maintaining records adapted for indicating a type of service that corresponds to one of the plurality of service providers. Brendel and Ishizaki do not specifically teach the method of claim 7 wherein maintaining the mapping comprises maintaining a plurality of A-records, each of the A-records having a type of service field adapted for indicating a type of service that corresponds to one of the plurality of Internet Service Providers and wherein receiving the request comprises receiving a DNS A-record request.

25. Coughlin teaches of maintaining a mapping of host names to IP addresses and receiving a request for DNS translation (col. 4, lines 39-44; col. 5, lines 44-51).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to receive a DNS A-record request and maintain A-records as taught by Coughlin and for the records to have a type of service that corresponds to one of the Internet Service Providers as taught by the suggested system. The motivation for the suggested combination is that

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Coughlin's teachings would improve the suggested system by allowing the suggested system to provide an additional service of DNS translation and providing an optimum path for services.

27. Claims 9, 12-15, 19, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Coughlin.

28. As per claim 9, 23-25, Brendel teaches substantially the invention as claimed including a network device, a computer readable medium, and a method for adapted for processing a request, comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are essential.), at least one of the process or the memory being adapted for:

receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and
transmitting a plurality of responses in response to the request, each of the plurality of responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service identifies or is mapped to an Internet Service Provider such that each of the responses is transmitted via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.).

29. Brendel teaches of a request but does not specifically teach that the request comprises a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

30. Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

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31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the request and responses as taught by Brendel to comprise a DNS request indicating a domain for which an IP address is requested and a plurality of DNS responses as taught by Coughlin. The motivation for the suggested combination is that both teachings similarly deal with identifying a first response to determine an optimum service, and Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

32. As per claim 12, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses has the same source address and destination address (col. 5, lines 55-56. Packets sent from server to client.).

33. As per claim 13, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches at least one of the processor and memory being adapted for: providing a service identifier in each of the plurality of responses, the service identifier identifying an Internet Service Provider that is used to route the corresponding response (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. Packet contains IP address to send packet.).

34. As per claim 14, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches the device wherein each of the plurality of responses comprises a type of service field adapted for indicating a type of service to be used during next-hop based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different

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path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.).

35. As per claim 15, Brendel and Coughlin taught of transmitting a DNS request and transmitting a plurality of DNS responses. Brendel does not specifically teach the method of claim 24, wherein receiving a DNS A-record request and transmitting a plurality of A-records.

36. Coughlin teaches of transmitting a request that requests an IP address corresponding to a domain name and transmitting a plurality of responses comprising IP address corresponding to a domain name (col. 5, lines 26-31, 44-51; col. 6, lines 22-31, 37-44).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to transmit a request that requests an IP address corresponding to a domain name and transmit a plurality of responses comprising IP address corresponding to a domain name. The motivation for the suggested combination is that Coughlin's teachings would improve the capability of the suggested system by enabling the suggested system to provide different services including DNS translation and allowing a client to identify and connect to a suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

38. As per claim 19, Brendel does not specifically teach the method as recited in claim 24, wherein transmitting a plurality of DNS responses comprises transmitting the plurality of DNS responses to client DNS server associated with a client initiating the DNS request.

39. Coughlin teaches of transmitting a plurality of DNS response to a client DNS server associated with a client initiating the DNS request (col. 6, lines 23-31).

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40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to transmit a plurality of DNS response to a client DNS server associated with a client initiating the DNS request. The motivation for the suggested combination is that Coughlin's teachings would improve the suggested system by providing DNS translation services and distributing the load of servers on the network (col. 4, lines 47-51).

41. As per claim 22, Brendel and Coughlin taught the method as recited in claim 24 of transmitting a plurality DNS responses. Brendel further teaches of transmitting a plurality of responses via one or more intermediate routers configured to perform next-hop policy based routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

42. As per claim 26, Brendel teaches substantially the invention as claimed including a system for selecting an Internet Service Provider via which to process a client request, comprising:

a network device adapted for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.) and transmitting a plurality of responses, each of the plurality responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57. Send multiple packets, each packet over different path. col. 10, lines 61-64. Each packet specifies a different path including a different list of IP addresses.), wherein the type of service identifies an Internet Service Provider such that each of the plurality of responses is transmitted via different one of a plurality of Internet Service Providers (col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

one or more intermediate routers configured to perform next hop policy based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP

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addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.); and

the client being configured to identify a first one of the plurality of responses to be received from the network device and to respond with an IP address of the Internet Service Provider identified by the type of service identified in the first one of the plurality of responses (col. 6, lines 13-20. Client responds to packet that arrives first.).

43. Brendel does not specifically teach of the request comprising a DNS request indicating a domain name for which is an IP address is requested, transmitting a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address identified in the first one of the plurality of DNS responses.

44. Coughlin teaches a system comprising: a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31. Receive DNS responses.); a client DNS server associated with a client initiating the DNS request and the client DNS server being configured to identify a first one of a plurality of DNS responses (col. 6, lines 23-32. first server selects first arriving DNS response.); and respond to the client with an IP address of a service provider (host) identified by the type of service identified in the first one of the plurality of DNS responses (col. 6, lines 37-40. Communicate first arriving IP address.).

45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to receive a DNS request indicating a domain name for which is an IP address is requested and transmit a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address identified in the first one of the plurality of DNS responses. The motivation for the suggested

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combination is that Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

46. Claims 11, 16-18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Coughlin, in view of Ishizaki.

47. As per claim 11, Brendel and Coughlin taught the method as recited in claim 24, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses includes a different one of a plurality of IP addresses (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10. IP addresses mapped to routers, gateways, and ISPs.). Brendel does not specifically teach each of the plurality of IP addresses being mapped to a different type of service.

48. Ishizaki teaches of maintaining records that map each different type of service to an IP address (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Service types associated with addresses.).

49. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to maintain a mapping of each different type of service to an IP address. The motivation for the suggested combination is that Ishizaki's teachings would provide an improvement to the suggested system by allowing the server to maintain and manage service information regarding the IP addresses and providing the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

50. As per claim 16, Brendel and Coughlin taught of the plurality of A-records, wherein the plurality of responses comprising A-records including a different IP address corresponding to an Internet Service

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Provider. Brendel and Coughlin do not specifically teach a different IP address that is mapped to an Internet Service Provider.

51. Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11).

52. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the suggested system with the teachings of Ishizaki to maintain a mapping of each different type of service to an IP address. The motivation for the suggested combination is that Ishizaki's teachings would provide the user with service information including the type of service provider that may be used to service the request.

53. As per claim 17, Brendel teaches of sending a response that identifies the Internet Service Provider. Brendel does not specifically teach the network device as recited in claim 16, wherein each of the plurality of A-records further includes a field adapted for identifying the Internet Service Provider.

54. Coughlin teaches of a plurality of A-records that identifies the service provider (col. 2, lines 25-31; col. 5, lines 26-39; col. 6, lines 25-31).

55. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the plurality of A-records as taught by Coughlin to identify an Internet Service Provider. The motivation for the suggested combination is that Coughlin's teachings would improve the suggested system by allowing the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

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56. As per claim 18, Brendel does not specifically teach the network device as recited in claim 17, at least one of the processor or the memory being further adapted: maintaining a table of A-records that includes the plurality of A-records.

57. Coughlin teaches of maintaining a mapping of host names to IP addresses (col. 4, lines 39-44; col. 5, lines 44-51).

58. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to maintain a mapping of host names to IP addresses. The motivation for the suggested combination is that Coughlin's teachings would enhance the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

59. As per claim 20, Brendel teaches of the client configured to identify a first one of the plurality of responses to be received and to respond to the client with an IP address of the Internet Service Provider corresponding to the type of service identified in the first one of the plurality of responses (col. 6, lines 12-17; col. 11, lines 17-24). Brendel does not specifically teach the method as recited in claim 19, wherein the client DNS server is configured to do identifying and for the responses to comprises DNS responses.

60. Coughlin teaches of a client DNS server configured to identify a first one of the plurality of DNS responses to be received (col. 6, lines 25-31) and to response to the client with an IP address of the service provider identified in the first one of the plurality of DNS responses (col. 6, lines 36-43).

61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to identify a first one of the plurality of DNS responses to be received and to response to the client with an IP address of the Internet Service Provider corresponding to the type of service identified in the first one of the plurality of DNS responses. The motivation for the suggested

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combination is that Coughlin's teachings would improve the suggested system by providing an optimum path for DNS translation and allowing the client to connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

62. As per claim 21, Brendel and Coughlin taught the method as recited in claim 20, wherein the client DNS server is further configured to obtain the type of service from the first one of the plurality of DNS responses (Coughlin: claim 1; col. 5, lines 52-57) and the client configured to obtain an IP address of the Internet Service provider corresponding to a type of service (Brendel: col. 8, lines 18-23; col. 11, lines 17-23). However, Brendel and Coughlin do not specifically teach wherein the client DNS server is configured to obtain the IP address from a mapping table.

63. Ishizaki teaches of obtaining an IP address of a service provider corresponding to the type of service from a mapping table (col. 7, lines 9-14. Table comprises service types associated with addresses corresponding to servers. col. 10, lines 1-11. Reply message comprises type of service and address of server.).

64. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to obtain the IP address corresponding to the type of service from a mapping table. The motivation for the suggested combination is that Ishizaki's teachings would improve the suggested system by allowing management of service information and enabling the server to provide service information used to determine a service provider.

65. Claims 27, 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Bohannon et al. US Patent #7,103,651 (Bohannon hereinafter).

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66. As per claims 27, 39-41, Brendel teaches substantially the invention as claimed including a network device adapted for establishing a TCP connection, Brendel's teachings comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.), at least one of the processor or the memory being adapted for:

receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates an Internet Service Provider such that each of the plurality of TCP acknowledgement packets is sent via a different one of a plurality of Internet Service Providers (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted (col. 6, lines 28-31. Examine sequence number in ACK packet to determine route.).

an IP address directly corresponding to the Internet Service Provider indicated by the type of service (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path).

67. Brendel does not specifically teach of providing an HTTP redirect to the IP address.

68. Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).

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69. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to provide a HTTP redirect to the IP address. The motivation for the suggested combination is that Bohannon's teachings would improve Brendel's teachings by allowing automatic redirection to a proper service provider to service client's requests (col. 10, lines 43-45)

70. As per claim 29, Brendel teaches the method as recited in claim 40, wherein the TCP connection request comprises a TCP packet having a synchronization flag set and wherein each of the plurality of TCP acknowledgement packets comprise a TCP packet having a synchronize flag set and an acknowledgment flag set (col. 5, lines 41-46; col. 6, lines 55-60. SYN flag set for packet sent by client. SYN+ACK packets sent by server.).

71. As per claim 30, Brendel teaches the method as recited in claim 40, wherein each of the plurality of TCP acknowledgement packets comprises a type of service field adapted for indicating a Internet Service Provider (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs.).

72. As per claim 31, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgment packets comprise a type of service field adapted for indicating a type of service to be used during next-hop based routing on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

73. As per claim 32, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgement packet includes a sequence number field, the at least one of the

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processor or the memory being further adapted for comprising: providing a sequence number in the sequence number field indicating an order in which the plurality of TCP acknowledgements packets are sent (col. 6, lines 42-44; col. 10, lines 14-20. Order of packets is indicated by sequence numbers.).

74. As per claim 33, Brendel teaches the network device as recited in claim 32, wherein receiving an acknowledgment message from the client that indicates receipt of one of the plurality of TCP acknowledgment packets sent by the network device comprises: receiving an acknowledgement message from the client including the sequence number of a first one of the plurality of TCP acknowledgement packets received by the client (col. 6, lines 18-23; col. 7, lines 41-46. Client responds with ACK packet. ACK packet contains server's sequence number incremented by one. (S_ISN+1)).

75. As per claim 34, Brendel teaches the network device as recited in claim 33, where each of the plurality of TCP acknowledgement further comprises: a type of service field adapted for indicating a Internet Service Provider via which a corresponding one of the plurality of TCP acknowledgement packets is to be transmitted (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

76. As per claim 35, Brendel teaches the network device as recited in claim 34, at least one of the processor or the memory being further adapted for:

obtaining the sequence number from the acknowledgment message received from the client (col. 6, lines 24-31; col. 8, lines 49-51. Read sequence number in the ACK packet.);

determining a type of service associated with the sequence number (col. 9, line 65-col. 10, line 2; col. 11, lines 17-21. Compare sequence fields to identify path.); and

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ascertaining an IP address corresponding to the Internet Service Provider indicated by the type of service (col. 11, lines 15-22. Path IP address field used to specify path.).

77. As per claim 36, Brendel teaches the network device as recited in claim 35, wherein ascertaining an IP address corresponding to the service provider indicated by the type of service comprises:

performing a look up in a mapping table, the mapping table including a plurality of IP addresses, each of the plurality of IP addresses corresponding to a different Internet Service Provider (col. 11, lines 2-16. Table contains IP addresses of routers and routes to ISPs.).

78. As per claim 37, Brendel teaches of receiving a plurality of TCP acknowledgement packets, each of the plurality of TCP acknowledgement packets further comprises: a type of service field adapted for indicating a Internet Service Provider via which the corresponding acknowledgement packet is to be transmitted (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

79. As per claim 38, Brendel teaches the network device as recited in claim 32, where each of the plurality of TCP acknowledgment packets further comprises a type of service field adapted for indicating a type of service to be used during next-hop routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to gateways and/or ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

Conclusion

80. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

81. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Friday 7 to 4.

82. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned 571-273-8300.

83. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joshua Joo/
Examiner, Art Unit 2454

/Nathan J. Flynn/

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Supervisory Patent Examiner, Art Unit 2454